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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,046

02/28/2006

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930092-2011

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02/01/2008

EXAMINER

ANDREWS, DAVID L

ART UNIT

PAPER NUMBER

3672

MAIL DATE

DELIVERY MODE

02/01/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,046	<b>Applicant(s)</b> TANK ET AL.	
	<b>Examiner</b> David Andrews	<b>Art Unit</b> 3672	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 9-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The amendment filed 11/13/2007 has been entered.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5 have been considered but they are not persuasive. Applicant argues that the protective layer of Scott is not a segment and is formed over the top surface of the abrasive rather than bonded to or integral with the side surface as in instant application. The examiner disagrees. A segment, as defined by Webster's II New College Dictionary, defines a segment as "any of the parts of which something can be divided." Therefore the layer 30 of Scott is a segment bonded to a side surface (and the top surface) of the abrasive layer, as shown in figure 11. Even though the protective layer also extends across the top surface, the disclosure of Scott meets the claim.

Applicant's arguments with respect to claims 9-13 have been fully considered but they are not persuasive. Applicant argues that the wholly PCD region of Matthias would not be suitable for the milling and drilling applications of instant invention since it is well known that PCD is not appropriate for ferrous substrate. It appears applicant is arguing limitations not in the claims. Claim 9 only requires a first and second substance to be drilled through which the PCD of differing wear characteristics would be suitable. There is no mention of ferrous materials in the claims and since the casing or lining of a borehole or shaft is not necessarily a ferrous material, these claims remain rejected

under Scott in view of Matthias. Further, it is not the materials of Matthias that were used in the combination but rather the arrangement of multiple cutting edges.

### ***Claim Objections***

Claim 5 is objected to for reciting alternative limitations when one of the alternatives is necessarily present. Claim 5 recites wherein the protective layer is bonded to the “top surface and/or the side surface of the ultra-hard material”, but claim 1 already requires the protective layer be bonded to the side surface of the ultra-hard material.

Claim 9 is objected to for a lack of antecedent basis for the limitation of “the substrate.”

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 recites that the protective layer is integrally formed with the substrate, but claim 1 requires the protective layer be bonded to the substrate. The two possibilities are considered exclusive of each other and can not be simultaneously met.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Scott et al. (US 5,979,571). Scott et al. disclose a tool insert comprising: a substrate (22; fig 11); a layer of ultra-hard abrasive material (24) having a top and side surface and a primary cutting edge; a protective layer (30) to protect the cutting edge and providing a secondary cutting edge (fig 11) with a depth selected to be sufficient to protect the primary cutting edge whilst cutting a window through a first substance but to expose the primary cutting edge upon encountering a second substance (col. 2, lines 26-39); wherein the substrate is tungsten carbide (col. 2, lines 45-49); wherein the protective layer is formed as a separate component in situ (figure 12; col. 5, lines 47-50); wherein the protective layer is formed as a separate component and bonded to the top surface or side surface of the ultra-hard material (col. 5, lines 62+); wherein the protective layer forms a segment which is bonded to the substrate adjacent the layer of ultra-hard material (figure 11 shows protective layer 30 which bonded as in col. 5, lines 60+ is considered to be on the substrate adjacent the ultra-hard layer); wherein the protective layer is formed of the same type of material as the substrate but a different grade (col. 5, lines 62+ would provide a different grade of WC); wherein the first substance is casing and the second is bedrock (col. 2, lines 27-45). Scott et al. also

disclose a method of drilling an angled hole comprising the steps in claims 12-13 (col. 2, lines 23+). Scott also shows an embodiment with the above features wherein the protective layer is integrally formed with the substrate and is formed of the same material as the substrate (fig 10).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al. (US 5,979,571) in view of Mattias et al. (US 2002/0074168). Scott et al. disclose a tool insert comprising: a substrate (22); a layer of ultra-hard abrasive material (24) having a top and side surface and a primary cutting edge; a protective layer (28, figure 10) to protect the cutting edge and providing a secondary cutting edge (26) with a depth selected to be sufficient to protect the primary cutting edge whilst cutting a window through a first substance but to expose the primary cutting edge upon encountering a second substance (col. 2, lines 26-39); wherein the first substance is casing and the second is bedrock (col. 2, lines 27-45). Scott et al. also disclose a method of drilling an angled hole comprising the steps in claims 12 and 13 (col. 2, lines 23+). Scott et al. does not disclose a plurality of alternating strips of ultra-hard material and protective layers. Mattias et al. disclose an insert with a plurality of ultra-hard

material strips (figure 27A; 80) and protective layer strips (82) on the substrate, the successive strips providing a series of primary cutting edges and a series of secondary cutting edges (figure 27B). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the concentric circle pattern of Scott et al. to the alternating strip pattern of Mattias et al. since Mattias et al. demonstrates these as known alternatives (figure 26 vs 27) which would provide predictable results and advantageously provide an insert with multiple cutting edges to cut more efficiently.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lloyd et al. (US 5,370,717) and Dodsworth (US 4,866,885) disclose tool inserts with multiple segments on a substrate.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Andrews whose telephone number is (571)272-6558. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David J. Bagnell/  
Supervisory Patent Examiner, Art Unit 3672

DLA  
1/24/2008